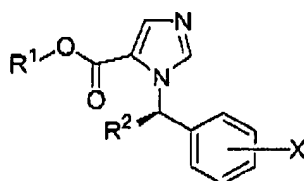


Amendments to the Claims:

The present listing of the claim replaces all past listings of the claim:

1. (Currently amended) A compound of the formula (I)

(I)



wherein

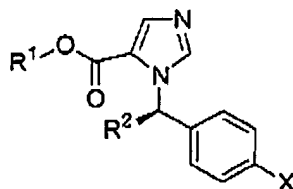
R^1 is linear or branched $\text{C}_1\text{-C}_4$ alkyl, and is optionally substituted with a halogen selected from the groups consisting of F, Cl, I or Br;

R^2 denotes an alkyl group containing 1 or 2 carbon atoms; and

X is a ~~non-radioactive or a radioactive~~ halogen.

2. (Currently amended) The compound of claim 1, having the formula (IA)

(IA)



wherein

~~X denotes a non-radioactive or radioactive halogen selected from the group consisting of I, Br, and F.~~

R¹ is linear or branched C₁-C₄ alkyl, optionally substituted with a halogen selected from F, Cl, I or Br;

R² denotes an alkyl group containing 1 or 2 carbon atoms; and

X is a halogen selected from the group consisting of I, Br, Cl and F..

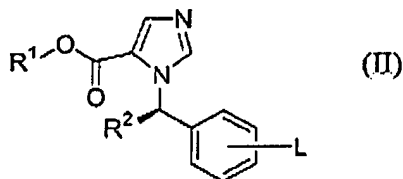
3. (Currently amended) The compound of claim 1, wherein

X is a radioactive halogen selected from the group consisting of ¹²³I, ¹²⁴I, ¹²⁵I, ¹³¹I, ⁷⁶Br, ⁸²Br or ¹⁸F.

4. (Currently amended) The compound of claim 1, wherein R¹ and R² are each methyl, and X is ¹²³I, and wherein the compound is ¹²³I-metomidate (¹²³I-MTO). X is non-radioactive or radioactive iodine, and wherein the compound is I-metomidate (IMTO).

5. (Currently amended) The compound of claim 1, wherein R¹ is ethyl, R² is methyl and X is non-radioactive or radioactive iodine ¹³¹I, wherein the compound is ¹³¹I-etomidate (¹³¹I-ETO) I-iodometomidate (IMTO).

6. (Currently amended) The A compound of the formula (II)



wherein

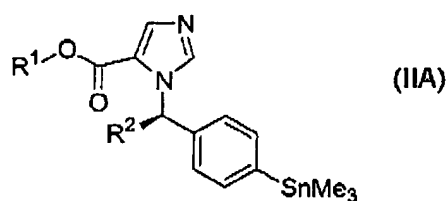
R¹ is linear or branched C₁-C₄ alkyl, optionally substituted with a halogen selected from

the group consisting of F, Cl, I or Br;

R² denotes an alkyl group containing 1 or 2 carbon atoms; and

L represents an alkyl-stannyl group selected from the group consisting of a trimethylstannyl, triethylstannyl, tri-n-propylstannyl and tri-n-butylstannyl.

7. (Currently amended) The compound of claim 6, having the general formula (IIA) wherein L is a trimethylstannyl group.

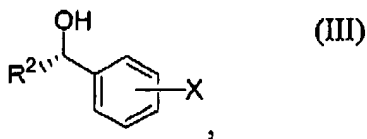


wherein L is a trimethylstannyl group.

8. (Original) The compound of claim 6 wherein R¹ and R² are each methyl, and L is a trimethylstannyl group.

9. (Currently amended) A process for preparing the compound of claim 1, the process the method involving comprising the steps of:

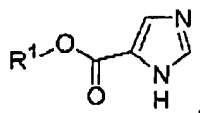
- (a) providing a (S)-secondary alcohol of formula (III)



- (b) coupling said (S)-secondary alcohol of formula (III) to an alkyl imidazole-5 [4]-

carboxylate of formula (IV)

(IV)



under conditions effective to achieve the compound of claim 1.

10. (Currently amended) The process of claim 9, wherein the (S)-secondary alcohol of formula (III) is prepared by the process method further comprising the steps of:

- (a) reducing a substituted phenyl methyl ketone having X as either iodine or bromine, to the ~~corresponding~~ racemic alcohol;
- (b) preparing the chloroacetate of said racemic alcohol; and
- (c) performing a lipase SAM II-catalysed resolution of (S)-alcohol of formula III derived from the (S)-enantiomeric ester.

11. (Currently amended) A process for preparing the compound compound[s] of claim 2 ~~and 3~~, the process method comprising the steps of

- (a) preparing a compound of formula (II)
- (b) reacting said compound of formula (II) under conditions effective for replacing L with non-radioactive or radioactive halogen to produce a compound of the formula (I) wherein R¹ is linear or branched C1-C4 alkyl, and is optionally substituted with a halogen selected from F, CL, I, Br; R² denotes an alkyl group containing 1 or 2 carbon atoms; and x is non-radioactive or radioactive halogen.

12. (Currently amended) The ~~method of claim 11, wherein the radioactive halogen is ¹²³I or ¹³¹I~~ compound of claim 4 having the structure ¹²³I-IMTO, ¹²³I-ETO, ¹²⁵I-IMTO, ¹²⁵I-ETO, ¹³¹I-IMTO, ¹³¹I-ETO, ¹²⁴I-IMTO, ¹²⁴I-ETO, ⁷⁶Br-MTO, ⁷⁶Br-ETO, ⁸²Br-ETO, ¹⁸F-MTO, ¹⁸F-ETO, I-MTO (non-radioactive iodine), preferably ¹²³I-ETO or most preferably ¹³¹I-ETO.
13. (Currently amended) The ~~compound of claim 1~~ method of claim 11, wherein the radioactive halogen is ⁷⁶Br or ⁸²Br X is a radioactive halogen, especially bromine.
14. (Currently amended) The compound of claim 1 ~~12~~, wherein R1 the halogen is non-radioactive or radioactive 2-fluoroethyl, preferably radioactive iodine.
15. (Currently amended) A method for the in vivo detection of receptor positive tissue and tumors of adrenal cortex in persons with adrenal pathology, said using the compound of claim 2 to visualize a subject's adrenal glands by radionuclide imaging (SPECT or PET), the method comprising administering the compound steps of:
- ~~(a) providing the compound of formula (IIA), and reacting said compound with a radioactive halogen and a halogenating agent under conditions suitable to affect the substitution of the trimethylstannyl group on the compound of formula (IIA), with a radioactive halogen, and~~
 - ~~(b) administering to a subject, a sufficient quantity (radioactivity) of the compound of claim 2 so as to image the adrenal glands of claim 1 to said person with adrenal disease, and wherein a radiotracer is selected from the group consisting of gamma or positron-emitting halogens..~~
16. (Currently amended) The method of claim 15, wherein the adrenal-derived tumor is radioactive halogen is not anatomically confined to the adrenal glands selected from the group consisting of, ¹²³I, ¹²⁴I, ¹³¹I, ⁷⁶Br, ⁸²Br or ¹⁸F.

17. (Currently amended) The ~~method~~ compound of claim 5 ~~15~~ having the structure
 ^{123}I -IMTO, ^{123}I -ETO, ^{125}I -IMTO, ^{125}I -ETO, ^{131}I -IMTO, ^{131}I -ETO, ^{124}I -IMTO, ^{124}I -
ETO, ^{76}Br -MTO, ^{76}Br -ETO, ^{82}Br -ETO, I-MTO (non-radioactive iodine), ^{123}I -
ETO or ^{131}I -ETO wherein the functional imaging is effective in detecting adrenal-
derived tumors.

18. (Canceled)